

REMARKS

Status of Claims

Claims 1-6, 12-15 and 17-19 are pending in this application, of which claims 1 and 12 are independent. Claims 5-6 and 12-14 have been withdrawn.

Claim 1 has been amended to correct informalities in claim language and to more clearly define the intended subject matter. Support for the amendment is found, for example, at FIG. 5 and page 18, line 23 to page 19, line 1 of the present specification. Claim 16 has been cancelled without prejudice. Care has been taken to avoid introducing new matter.

Information Disclosure Statement

Applicants respectfully request that the Examiner expressly consider the information disclosure statement accompanied with PTO Form 1449 filed on October 22, 2008, and return an initialed copy of the Form 1449 with the next Official Communication. A duplicate of the previously submitted Form 1449 is attached herewith for the Examiner's convenience.

Claim Rejection - 35 U.S.C. § 103

Claims 1-4, 15 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagisawa (USP Pub. No. 2004/0080028) in view of Glenn et al. (USP 6,566,164). Claims 1-4, 16, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mamitsu et al. (US 6,703,707) in view of Litwin (USP 6,507,047). Claim 17 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Mamitsu in view of Litwin, as applied to claim 3, and further in view of Wu et al. (US 6,590,281). Applicants respectfully traverse these rejections for at least the following reasons.

Applicants respectfully submit that none of the cited references, taken alone or in any combination thereof, discloses or suggests that *“the first intermediate member and the second intermediate member touch the lower surface of the semiconductor chip and the first base material,”* and *“an area where the second intermediate member touches the lower surface of the semiconductor chip is larger than an area where the first intermediate member touches the lower surface of the semiconductor chip,”* as recited by amended claim 1. With this structure, the temperature increase of the external connection terminal of the base member can be more effectively suppressed (see, page 20, lines 10-14 of the present disclosure).

The Examiner asserts that the combination of Yanagisawa and Glenn or the combination of Mamitsu and Litwin discloses the features of claim 1. Specifically, the Examiner asserts that Glenn discloses that “a first intermediate member made of an electrically conductive material and a second intermediate member made of a material having lower heat conductivity than the first intermediate member are provided under the lower surface of the semiconductor chip and between the first base material and the semiconductor chip,” referring to elements 22 and 23 in FIG. 4 of Glenn. The Examiner also asserts that element 502 (solder) and resin (514) under the chip 501a as shown in FIG. 36 of Mamitsu correspond to the claimed first and second intermediate members, respectively.

However, in Glenn, it is clear that the alleged second intermediate member (23) does not touch the base 20. In FIG. 4 of Glenn, a solder layer 22 is provided between the alleged second intermediate member 23 and the base 20, which prevents the alleged second member 23 from touching the base 20. It is also clear that in Mamitsu, the area the alleged second intermediate member (514) touches the lower surface of the semiconductor chip (501a) is smaller than the area where the alleged first intermediate member (502) touches the lower surface of the

semiconductor chip (501a). Applicants also submit that none of the remaining cited references cures the deficiencies of Glenn or Mamitsu, and it would not have been obvious to add these features to any combination of the cited references.

Accordingly, Applicants respectfully submit that claim 1 and all claims dependent thereon are patentable over the cited references. Thus, it is requested that the Examiner withdraw the rejections of claims 1-4, 15 and 19 under 35 U.S.C. § 103(a) based on Yanagisawa and Glenn, claims 1-4, 16, 18 and 19 based on Mamitsu and Litwin, and claim 17 based on Mamitsu, Litwin and Wu. It is further requested that since base claim 1 is now in condition for allowance, withdrawn claims 5 and 6 be rejoined.

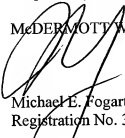
CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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